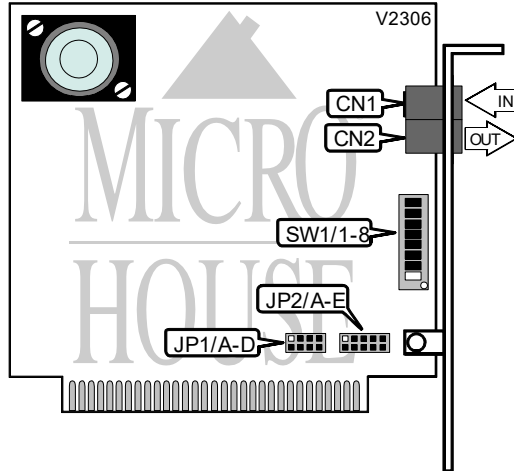


# PURETEK INDUSTRIAL CO, INC.

## 14400BPS FAX/MODEM ADAPTER (INT)

Card Type	Fax, Modem (asynchronous)
Chip Set	Unidentified
Maximum Data Rate	14.4Kbps
Maximum Fax Rate	14.4Kbps
Data Bus	8-bit ISA
Fax Class	Class I & II
Data Modulation Protocol	Bell 103/212A
Fax Modulation Protocol	ITU-T V.21, V.22, V.22bis, V.23, V.25, V.32, V.32bis
Error Correction/Compression	ITU-T V.17, V.21CH2, V.27ter, V.29 MNP5, V.42, V.42bis



CONNECTIONS				
Function		Label	Function	
Line in		CN1	Line out	CN2

USER CONFIGURABLE SETTINGS			
Setting		Label	Position
í DTR normal		SW 1/1	Off
Modem ignores DTR		SW 1/1	On
í Verbose result codes		SW 1/2	Off
Numeric result codes		SW 1/2	On
í Result code display enabled		SW 1/3	On
Result code display disabled		SW 1/3	Off
í Local echo enabled		SW 1/4	Off
Local echo disabled		SW 1/4	On
í Auto answer disabled		SW 1/5	On
Auto answer enabled		SW 1/5	Off
í CD signal normal		SW 1/6	Off
CD forced high		SW 1/6	On
í Load Y or Y1 configuration from NVRAM		SW 1/7	Off
Load &F0 generic template configuration from ROM		SW 1/7	On
í Smart mode		SW 1/8	On
Dumb mode		SW 1/8	Off

Continued on next page . . .

PURETEK INDUSTRIAL CO, INC.  
 14400BPS FAX/MODEM ADAPTER (INT)

. . . continued from previous page

SERIAL PORT ADDRESS				
Setting	JP1/A	JP1/B	JP1/C	JP1/D
COM1 (3F8h)	On	Off	Off	Off
i COM2 (2F8h)	Off	On	Off	Off
COM3 (3E8h)	Off	Off	On	Off
COM4 (2E8h)	Off	Off	Off	On

INTERRUPT					
Setting	JP2/A	JP2/B	JP2/C	JP2/D	JP2/E
2	On	Off	Off	Off	Off
i 3	Off	On	Off	Off	Off
4	Off	Off	On	Off	Off
5	Off	Off	Off	On	Off
7	Off	Off	Off	Off	On

SUPPORTED COMMAND SET
Basic AT Commands
AT, '+++', A/
A, B, E, H, L, M, P, S, T, V
&G, &T
S Registers
S0, S1, S2, S3, S4, S5, S6, S7, S8, S9, S10, S11, S12
<b>Note:</b> See MHI Help file for full command documentation.

### Proprietary AT Command Set

ABORT	
Type:	Immediate
Format:	Any key
Description:	Aborts answering/originating a call; modem hangs up.

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PURETEK INDUSTRIAL CO, INC.  
 14400BPS FAX/MODEM ADAPTER (INT)

. . . continued from previous page

BIT-MAPPED REGISTER S13		
Format	AT [cmds] S13= <i>n</i> [cmds]	
Default:	0	
Range:	0-159	
Unit:	Bit-mapped	
Description:	Controls DTR reset, non-error-correcting mode buffer, BS/DEL switch, DTR dialing, reset dialing, and reaction to escape character.	
Bit	Value	Function
0	í 0	DTR normal
	1	Reset on low DTR
1	í 0	Non-error-correcting mode transmit buffer set to 1.5KB
	1	Non-error-correcting mode transmit buffer set to 128 bytes
2	í 0	Use backspace key for delete disabled
	1	Use backspace key for delete enabled
3	í 0	DTR dialing disabled
	1	DTR dialing enabled
4	í 0	Reset dialing disabled
	1	Reset dialing enabled
6, 5	í 00	Not used
7	í 0	Normal operations
	1	Disconnect on escape character

BIT-MAPPED REGISTER S15		
AT [cmds] S15= <i>n</i> [cmds]		
0		
0-255		
Controls ARQ/MNP in V.22, V.22bis, V.32/32bis/32terbo; MNP handshake, MNP operation.		
Value		Function
	í 0	ARQ/MNP for V.22 enabled
	1	ARQ/MNP for V.22 disabled
	í 0	ARQ/MNP for V.22bis enabled
	1	ARQ/MNP for V.22bis disabled
	í 0	ARQ/MNP for V.32/32bis/32terbo e
	1	ARQ/MNP for V.32/32bis/32terbo d
	í 0	MNP handshake enabled
	1	MNP handshake disabled
	í 0	MNP4 enabled
	1	MNP4 disabled
	í 0	MNP3 enabled
	1	MNP3 disabled
	í 0	MNP compatibility
	1	MNP incompatibility
	í 0	V.32 operation enabled
	1	V.32 operation disabled

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PURETEK INDUSTRIAL CO, INC.  
 14400BPS FAX/MODEM ADAPTER (INT)

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BIT-MAPPED REGISTER S26		
Format:	AT [cmds] S26= <i>n</i> [cmds]	
Default:	0	
Range:	0-191	
Unit:	Bit-mapped	
Description:	Controls V.21, V.32 encoding and modulation, V.23 fallback, V.32bis mode, and 9600 result codes.	
Bit	Value	Function
0	í 0	V.21 disabled
	1	V.21 enabled
1	í 0	V.32 non-trellis coding disabled
	1	V.32 non-trellis coding enabled
2	í 0	V.32 modulation enabled
	1	V.32 modulation disabled
3	í 0	2100Hz answer tone enabled
	1	2100Hz answer tone disabled
4	í 0	V.23 fallback mode disabled
	1	V.23 fallback mode enabled
5	í 0	V.32bis mode enabled
	1	V.32bis mode disabled
6	í 0	Not used
7	í 0	Actual result codes displayed
	1	Force 9600 result codes

BREAK LENGTH	
Type:	Register
Format:	AT [cmds] S21= <i>n</i> [cmds]
Default:	10
Range:	Unidentified
Unit:	.01 second
Description:	Sets the length of error control mode breaks sent from DCE to DTE.

BREAK TYPE	
Type:	Configuration
Format:	AT [cmds] &Y <i>n</i> [cmds]
Description:	Configures action of break signal
Command	Function
&Y0	Empty buffer only
í &Y1	Empties buffer and break is sent immediately
&Y2	Do not empty buffer and break is sent immediately

CARRIER DETECT (CD)	
Type:	Configuration
Format:	AT [cmds] &C <i>n</i> [cmds]
Description:	Controls the CD signal
Command	Function
&C0	Modem does not respond to CD signal
í &C1	CD signal normal

Continued on next page . . .

PURETEK INDUSTRIAL CO, INC.  
 14400BPS FAX/MODEM ADAPTER (INT)

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COMPRESSION	
Type:	Configuration
Format:	AT [cmds] &Kn [cmds]
Description:	Selects data compression
Command	Function
&K0	Data compression disabled
í &K1	Auto enabled/disable data compression
&K2	Data compression enabled
&K3	MNP5 data compression disabled

CONNECTION SPEED UPPER LIMIT	
Type:	Configuration
Format:	AT [cmds] &Nn [cmds]
Description:	Sets maximum required connection speed, modem will hang up if it cannot connect.
Command	Function
í &N0	Variable
&N1	300bps
&N2	1200bps
&N3	2400bps
&N4	4800bps
&N5	7200bps
&N6	9600bps
&N7	12Kbps
&N8	14.4Kbps

DATA SET READY (DSR)	
Type:	Configuration
Format:	AT [cmds] &Sn [cmds]
Description:	Selects DSR options
Command	Function
í &S0	DSR forced high
&S1	DSR controlled by modem

DATA TERMINAL READY (DTR)	
Type:	Configuration
Format:	AT [cmds] &Dn [cmds]
Description:	Selects modem response to DTR
Command	Function
&D0	Modem does not respond to DTR
&D1	Modem goes to command mode after DTR toggles
í &D2	Modem uses DTR as normal

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PURETEK INDUSTRIAL CO, INC.  
 14400BPS FAX/MODEM ADAPTER (INT)

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DIAL	
Type:	Immediate
Format:	AT [cmds] D<#> [cmds]
Example:	<b>ATDT 443-3388,,,1111;</b>
Description:	Dials telephone number according to any modifiers included in the string
Note:	Any combination of modifiers can be used to produce the desired dial functions in sequence.
Command	Function
i P	Pulse dialing enabled
T	Tone dialing enabled
,	Dialing paused for 2 seconds or amount specified in S8 register
;	Modem returned to command state after dialing. Can only be placed at the end of the dial command.
!	Flash function initiated
/	Pause for 125ms then proceed with dial string
@	Dial, wait for quiet answer, then continue to execute the rest of the dial string
W	Dial, wait for second dial tone for amount specified in S6 register, then continue to execute the rest of the dial string
R	Answer mode enabled, originate mode disabled following handshake initiation

DIAL - LAST NUMBER	
Type:	Immediate
Format:	AT [cmds] DL [cmds]
Description:	Re-dial last number dialed

DIAL - STORED NUMBER	
Type:	Immediate
Format:	AT [cmds] DS <i>n</i> [cmds]
Description:	Dial stored number from memory location <i>n</i>

DISCONNECT BUFFER DELAY	
Type:	Register
Format:	AT [cmds] S38= <i>n</i> [cmds]
Default:	0
Range:	Unidentified
Unit:	1 second
Description:	Sets maximum duration allowed during buffered data calls for modem to perform clearing functions after losing carrier-signal or receiving a clear call signal from the remote modem and before initiating hang-up process. A value of 0 will allow the modem to hanging-up after DTR drops.

DTR CHANGE THRESHOLD	
Type:	Register
Format:	AT [cmds] S25= <i>n</i> [cmds]
Default:	20
Range:	Unidentified
Unit:	.01 second
Description:	Sets maximum time a change in the DTR signal will be ignored

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PURETEK INDUSTRIAL CO, INC.  
 14400BPS FAX/MODEM ADAPTER (INT)

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ERROR CORRECTION MODE (ARQ)	
Type:	Configuration
Format:	AT [cmds] &Mn [cmds]
Description:	Selects active error correction protocols
Command	Function
&M0	Normal mode only
í &M4	Auto-detect mode
&M5	ARQ mode only

EXTENDED RESULT CODES	
Type:	Configuration
Format:	AT [cmds] &An [cmds]
Description:	Selects extended result codes
Command	Function
&A0	Extended result codes disabled
&A1	ARQ result codes enabled
&A2	ARQ result codes enabled and V.32 result code added
í &A3	Error control and compression result codes enabled

FACTORY DEFAULT PROFILE	
Type:	Configuration
Format:	AT [cmds] &Fn [cmds]
Description:	Resets values in active profile to values found in the default profile, which are READ-ONLY.
Command	Function
&F0	Generic template
í &F1	Hardware flow control template
&F2	Software flow control template

FLOW CONTROL CHARACTER - XOFF	
Type:	Register
Format:	AT [cmds] S23=n [cmds]
Default:	19
Range:	0-127
Unit:	ASCII
Description:	Sets the character used to represent XOFF.

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FLOW CONTROL CHARACTER - XON	
Type:	Register
Format:	AT [cmds] S22=n [cmds]
Default:	17
Range:	0-127
Unit:	ASCII
Description:	Sets the character used to represent XON.

Continued on next page ...

PURETEK INDUSTRIAL CO, INC.  
 14400BPS FAX/MODEM ADAPTER (INT)

. . . continued from previous page

FLOW CONTROL PASS-THROUGH	
Type:	Configuration
Format:	AT [cmds] &In [cmds]
Description:	Allows modem to act on, then transmit XON/XOFF characters.
Command	Function
í &I0	Software flow control disabled
&I1	XON/XOFF passthrough enabled
&I2	XON/XOFF passthrough disabled

FLOW CONTROL TYPE	
Type:	Configuration
Format:	AT [cmds] &Hn [cmds]
Description:	Sets type of flow control used by modem
Command	Function
&H0	Flow control disabled
í &H1	CTS/RTS flow control enabled
&H2	XON/XOFF flow control enabled
&H3	CTS/RTS and XON/XOFF flow control enabled

FLOW CONTROL TYPE	
Type:	Configuration
Format:	AT [cmds] &Rn [cmds]
Description:	Controls receive data hardware flow control and RTS signals
Command	Function
&R1	Modem ignores RTS
í &R2	Received data to DTE when RTS is on

HANDSHAKE TIMER	
Type:	Register
Format:	AT [cmds] S28=n [cmds]
Default:	8
Range:	0-255
Unit:	.1 second
Description:	Sets the length of handshake time, so modems with V.32bis are given a chance to connect at 9600bps or higher.

INACTIVITY TIMER	
Type:	Register
Format:	AT [cmds] S19=n [cmds]
Default:	0
Range:	Unidentified
Unit:	1 minute
Description:	Sets the length of time that the modem does not receive information before it disconnects.

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PURETEK INDUSTRIAL CO, INC.  
 14400BPS FAX/MODEM ADAPTER (INT)

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LIST AMPERSAND COMMANDS	
Type:	Immediate
Format:	AT [cmds] &\$ [cmds]
Description:	Displays ampersand (&) commands

LIST DIAL COMMANDS	
Type:	Immediate
Format:	AT [cmds] D\$ [cmds]
Description:	Displays dial commands

LIST S-REGISTERS	
Type:	Immediate
Format:	AT [cmds] S\$ [cmds]
Description:	Displays the S-registers

LOCK SERIAL PORT	
Type:	Configuration
Format:	AT [cmds] &Bn [cmds]
Description:	Sets operation of serial port speed
Command	Function
&B0	Serial speed follows connect speed
f &B1	Serial speed locked
&B2	Serial speed locked in ARQ mode only

ON-LINE	
Type:	Immediate
Format:	AT [cmds] On [cmds]
Description:	Controls on-line command (data transmission) mode options.
<b>Note:</b> The O command must be placed at the end of the command string.	
Command	Function
O0	On-line command mode with no retraining enabled
O1	On-line command mode with retraining enabled

ON-LINE HELP	
Type:	Immediate
Format:	AT [cmds] \$ [cmds]
Description:	On-line help; displays basic command list

POWER-UP/HARD RESET CONFIGURATIONS	
Type:	Configuration
Format:	AT [cmds] Yn [cmds]
Description:	On power-up modem uses default profiles
Command	Function
f Y0	Use default setting 0 saved in non-volatile RAM
Y1	Use default setting 1 saved in non-volatile RAM

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PURETEK INDUSTRIAL CO, INC.  
 14400BPS FAX/MODEM ADAPTER (INT)

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PULSE DIALING RATIO	
Type:	Configuration
Format:	AT [cmds] &Pn [cmds]
Description:	Selects pulse dial make/break ratio
Command	Function
í &P0	39/61ms at 10pps (North America)
&P1	33/67ms at 10pps (Europe)

REPORT INFORMATION	
Type:	Immediate
Format:	AT [cmds] In [cmds]
Description:	Displays information requested
Command	Function
I0	Reports 4-digit product code
I1	Reports ROM checksum
I2	Reports RAM checksum
I3	Reports product type
I4	Reports current command settings
I5	Reports NVRAM settings
I6	Reports link diagnostics
I7	Reports product configuration

RESULT CODES	
Type:	Configuration
Format:	AT [cmds] Qn [cmds]
Description:	Enables modem to send result codes to the DTE
Command	Function
í Q0	Result code sending enabled
Q1	Result code sending disabled
Q2	Result code sending enabled while in originate mode

SELECT CALL PROGRESS RESULT CODES	
Type:	Configuration
Format:	AT [cmds] Xn [cmds]
Description:	Enables selection of tone detection and associated result code format options
Command	Function
X0	Busy and dial tone detection disabled; result codes 0-4 enabled.
X1	Busy and dial tone detection disabled; result codes 0-5, 10-107 enabled
X2	Busy tone detection disabled, dial tone detection enabled; result codes 0-6, 10-107 enabled; also adaptive dialing, wait for second dial tone, and fast dialing enabled.
X3	Busy tone detection enabled, dial tone detection disabled; result codes 0-5, 7-107 enabled; also adaptive dialing, and wait for answer enabled.
í X4	Busy and dial tone detection enabled; result codes 0-1, 3-25 enabled; also adaptive dialing, wait for second dial tone, wait for answer, and fast dialing enabled.
<b>Note:</b> Valid numeric result codes; 0-8, 10, 13, 18, 20, 21, 25, 43, 85, 91, 99, 103, and 107.	

Continued on next page . . .

PURETEK INDUSTRIAL CO, INC.  
 14400BPS FAX/MODEM ADAPTER (INT)

. . . continued from previous page

SOFT RESET	
Type:	Immediate
Format:	AT [cmds] Zn [cmds]
Description:	Restores modem profiles previously saved in non-volatile RAM
Command	Function
i Z0	Restore setting used by ATY command
Z1	Restore setting 0
Z2	Restore setting 1
Z3	Restore factory setting 0 (AT&F0)
Z4	Restore factory setting 1 (AT&F1)
Z5	Restore factory setting 2 (AT&F2)

STATUS-REGISTER	
Type:	Configuration
Format:	Read: AT [cmds] Sn? [cmds] Write: AT [cmds] Sn=x [cmds]
Description:	Writes to or reads from a specified register
<b>Note:</b> See the section on S-registers for detailed listing of commonly used S-registers.	
Command	Function
Sn.b=x	Write to register bit <i>b</i> using values 0 (off) and 1 (on) for <i>x</i>

STORE ACTIVE PROFILE	
Type:	Configuration
Format:	AT [cmds] &Wn [cmds]
Description:	Writes the values for the active profile into the non-volatile RAM templates
Command	Function
&W0	Write the active profile to stored profile 0
&W1	Write the active profile to stored profile 1

STORE TELEPHONE NUMBER	
Type:	Configuration
Format:	AT [cmds] &Zn=x [cmds]
Description:	Writes selected telephone numbers into the non-volatile memory at location <i>n</i>
<b>Note:</b> The characters described in the D command are valid for use in the &Z command.	
Command	Function
&Zn=L	Writes last executed dial string into the non-volatile memory at location <i>n</i>
&Zn?	Displays phone number from non-volatile memory at location <i>n</i>
&ZL?	Displays last executed dial string

Continued on next page . . .

PURETEK INDUSTRIAL CO, INC.  
 14400BPS FAX/MODEM ADAPTER (INT)

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TEST MODES	
Type:	Configuration
Format:	AT [cmds] &Tn [cmds]
Description:	Controls loopback tests, analog, digital, remote digital, and self tests.
Command	Function
&T0	Testing disabled
&T1	Local analog loopback enabled
&T3	Local digital loopback enabled
&T4	Remote digital loopback enabled
í &T5	Remote digital loopback prohibited
&T6	Remote digital loopback initiated
&T7	Remote digital loopback w/ self-test and error detector in progress
&T8	Local analog loopback w/ self-test and error detector in progress

TEST TIMER	
Type:	Register
Format:	AT [cmds] S18=n [cmds]
Default:	0
Range:	Unidentified
Unit:	1 second
Description:	Sets the maximum duration for modem tests
<b>Note:</b> S18=0 disables the timer and allows an indefinite duration.	

TONE DIALING TEST	
Type:	Register
Format:	AT [cmds] S16=n [cmds]
Description:	Selects the tone dialing test
Command	Function
í S16=0	Tone dialing test disabled
S16=2	Tone dialing test enabled

V.21 - ANSWER MODE FALLBACK TIMER	
Type:	Register
Format:	AT [cmds] S29=n [cmds]
Default:	20
Range:	0-255
Unit:	.1 second
Description:	Set the amount of time the modem uses during V.21 answer mode fallback